

# Asbestos Program

## Lesson Guide #16



# OBJECTIVES: *Upon completion of this topic you will be able to:*

- Describe the Navy's Asbestos Program applicability.
- Describe the general workplace control practice for asbestos.
- Identify the elements of the Asbestos Management Program.
- Describe the activities responsibilities for the Asbestos Management Program.

# Applicability

- Afloat Commands
  - 29 CFR 1915.1001
    - Asbestos in Shipyards
  - OPNAVINST 5100.19(series)
    - Chapter B-1
- Ashore Commands
  - 29 CFR 1926.1101
    - Asbestos Construction Standard
  - OPNAVINST 5100.23(series)
    - Chapter 17

# Background

- The word “Asbestos” is derived from a Greek adjective meaning inextinguishable
- Asbestos is a naturally occurring mineral
  - Once extracted from the earth, asbestos containing rocks are crushed, milled and graded, this produces long, thread-like fibers

# Uses of Asbestos

- Because of its unique properties:
  - fire resistance
  - high tensile strength
  - poor heat and electrical conductivity
  - impervious to chemical attacks
- Most common use
  - fireproofing material

# Health Effects

- Asbestosis
  - a disease characterized by fibrotic scarring of the lung
    - latency period of 10-20 years
- Lung Cancer
  - there are many causes of lung cancer, of which asbestos is only one
    - cigarette smoking is more than 50 times more likely to contact lung cancer
    - latency period is typically 20 years

# Health Effects

- Mesothelioma
  - greatest concern and rarest
  - cancer of the chest cavity lining
  - spread rapidly and is always fatal
  - latency period 20-40 years

# Exposure Limits

- Permissible Exposure Limit (PEL)
  - OSHA limit for asbestos
    - 0.1 f/cc
- Excursion Limit (EL)
  - OSHA limit for asbestos
    - 1.0 f/cc



# Control of Asbestos

- Identification of asbestos
- Awareness of the health hazards
- Using good work practices
  - Working asbestos wet
  - Working under negative pressure
  - Working clean

# Control of Asbestos

- There are four Classes of asbestos work
  - Class I
    - removal of thermal system insulation and surfacing asbestos containing materials
  - Class II
    - removal of asbestos containing materials which are neither thermal system insulation or surfacing

# Control of Asbestos

- There are four Classes of asbestos work (cont)
  - Class III
    - repair and maintenance operations where asbestos containing materials might be disturbed
  - Class IV
    - maintenance and custodial activities where contact is expected but no disturbance of asbestos containing material

# Respiratory Protection

- Respiratory Protection Program
  - Any employee who requires or permits employees to wear a respirator must have a written program
  - Required by OSHA:
    - 29 CFR 1910.1001 (General Industry)
    - 29 CFR 1910.134 (Respiratory Protection)
    - 29 CFR 1915.1001 (Shipyard)
    - 29 CFR 1926.1101 (Construction)

# Respiratory Protection

- Categories of Respirators
  - Air-purifying
  - Supplied-air
  - Combination
- Only use NIOSH approved
- Medical Approval
- Training
- Fit testing

# Respiratory Protection

- Seal Checks
  - Before entering hazardous atmosphere
    - Seal checks
      - Negative pressure seal check
      - positive pressure seal check

# Asbestos Medical Surveillance Program (AMSP)

- Who needs medical surveillance
  - employees engaged in Class I, II, and III work for thirty or more days per year; if they are exposed at or above the PEL or EL; or, if they they wear negative-pressure respirators
- Examinations
  - Pre-Placement Exams
  - Annual Examinations
  - Termination of Employment Examination

# Asbestos Sampling

- Types of samples
  - Bulk
    - Purpose is for identification
    - Method of analysis is Phase Light Microscopy
    - Criteria to identify Type and amount of asbestos or %



# Asbestos Sampling

- Types of samples (cont)
  - Area/Personal
    - Purpose is for establishing fiber levels in air so personnel aren't exposed above PEL or EL
    - Method of analysis is Phase Contrast Microscopy
    - Criteria to identify amount of fibers or %

# Asbestos Samples

- Final clearance samples
  - to determine the cleanness of abatement project so personnel can come back into area safely
    - Non-school house (OSHA) projects final clearance
      - Method is Phase Contrast Microscopy
      - Criteria is  $<0.01$  F/cc
    - School house (EPA) projects final clearance
      - Method is Transmission Electron Microscopy
      - Criteria is  $<70$  s/mm<sup>2</sup>

# Disposal Procedures

- Proper packaging, sealing, labeling
  - Package
    - double 6 mil plastic bag
  - Sealing
    - evacuate air in bag twist tape loop and tape to form a handle (goose neck or J seal)
    - double bag
  - Label
    - check with local disposal authority

# Training

- Afloat Commands
  - Follow requirements in
    - OPNAVINST 5100.19(series)
      - Chapter B-1
- Ashore Commands
  - Follow requirements in
    - OPNAVINST 5100.23(series)
      - Chapter 17

# OPNAV PROVIDES

- guidance for the control and elimination of exposure to Navy personnel
- states the Navy policy - to eliminate asbestos hazards

# Asbestos Management Program Ashore

- survey and material evaluation
- Operations & Maintenance (O&M) program
- design and abatement

# Asbestos Management Program Ashore

- Asbestos Program Manager
  - must be appointed in writing
  - will implement the Asbestos Management Program

# Industrial Hygiene Surveillance

- Exposure Monitoring Plan



# Work Performed by Private Contractors

- contractors must comply with OSHA and EPA

# Responsibilities

- Echelon 2 - ensure that asbestos containing materials are not procured
- BUMED - manage the AMSP
- NAVFACENGCOM - provide oversight for Asbestos Management Ashore

# Responsibilities

- Commanding Officers
  - apply control measures
  - monitor procedures
  - maintain O&M plans  
(Operations and Maintenance)

# Review and Summary